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ABSTRACT

This document contains three papers on conservation which were presented at the 1986 International Federation of Library Associations (IFLA) conference. In "The IFLA Conservation Section and the Core Programme for Preservation (PAC)," David W. G. Clements of the United Kingdom outlines the background of the Core Programme on Preservation and Conservation and summarizes current PAC projects. Appendices include a draft copy of conservation survey methodology, a chart illustrating paper embrittlement from 1850 to 1960 measured by fold test, a model of preservation options, and draft copies of guidelines for the handling of books in general collections and conservation rules for readers. "Preservation/Conservation in Japan" (Akio Yasue, Japan) describes the responses of book publishers and librarians to problems of preservation and conservation. Finally, in "Preservation Problems and the Five-Year Plan," Li Jingren of China discusses preservation problems and activities at the National Library of China, with emphasis on a 5-year preservation plan designed to extend from 1985 to 1989. (KM)

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IFLA

General Conference

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IFLA

1986

IFLA GENERAL CONFERENCE, TOKYO

Division: Management & Technology

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The IFLA Conservation Section and the Core Programme for Preservation (PAC)

by

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THE IFLA CONSERVATION SECTION AND THE CORE PROGRAMME FOR PRESERVATION (PAC)

BACKGROUND

Preservation and Conservation of library materials is a problem faced by libraries all over the world. The degree to which libraries are aiming to preserve part or all of their collections varies with the type of library and its overall objectives. It is, however, true that most libraries have at least some part of their collections that they would like to preserve indefinitely.

Recognition of the scale of the problem is shown by the establishment of the IFLA core programme on preservation and conservation (PAC) which was officially launched at the Vienna Conference on the Preservation of Library Materials in April 1986. The programme is concerned with raising awareness in order to mobilise efforts to cope with current and future preservation needs, encourage the development and co-ordination of international efforts and policies, promote the search for solutions to the serious problems of physical deterioration, and play a role in encouraging the development of training programmes. The role of the International Centre for Preservation and Conservation at the Library of Congress and the activities of regional centres have been outlined elsewhere.

The IFLA Conservation Section is working in close co-operation with both the International Centre and Regional Centres as they are established in helping to promote the programme and to initiate projects that can result in practical output in the form of guidelines, promotional material, publications, etc.

FACTORS INVOLVED

Preservation of library materials is dependent on a number of factors including the life expectancy of the materials used in the production of books etc., the long term effects of storage and environmental conditions, wear and tear resulting from use and the associated consequence of handling by staff and readers, the need to provide copies for readers and the problems of damage by biological pests.

IFLA PRINCIPLES

The starting point must be the IFLA "Principles for the Preservation and Conservation of Library Materials". This 25 page booklet published in the IFLA Professional report series has just been updated and provides a concise exposition of the principles of preservation applied to library materials for the guidelines of librarians. It does not aim to provide a comprehensive list of detailed methods and practices but outlines the many factors involved and the close inter-relationship of preservation with all other major library functions. An English version was published in April of this year and French and Spanish translations are in hand.

ASSESSING THE SCALE OF THE PROBLEM

A basic step must also be to promote awareness of the preservation problems and to ensure that library administrators and policy makers accept preservation and conservation as a major issue and in need of appropriate financial support. To convince the authorities of the urgency and importance of the issue will require a well argued case with supporting factual information on the scale of the

problem, the preservation options available and the likely order of costs. One essential element must be the collection of statistical information on the condition of the collections and an outline methodology based on random sampling is attached at Annex A. The type of results that can be obtained are illustrated in Annex B for data collected at the British Library. Such results indicate that in our collections some 15% of the collections published since 1850 are in urgent need of treatment due to paper embrittlement representing some 1.65 million volumes or over £80 million while a further 60,000 items are reaching this level each year representing an additional £3 million if conserved by traditional methods or 60 camera years of effort if microfilmed.

MODEL OF PRESERVATION OPTIONS

It is when one realises the scale of the problem that one recognises the need to ensure all options are considered and selectivity is applied in deciding whether an item should be preserved now or later. It is therefore useful to try to orientate the selection of library materials for preservation treatment on the basis of value and use rather than just condition of the item as otherwise effort could be dissipated in conserving unimportant items in the collections while other more deserving cases are left to deteriorate. As an attempt to assist in such selection a model can be produced to postulate the choice of preservation treatment on the basis of the value and use of the item. Such a model though crude helps to clarify priorities and is set out in Annex C.

WEAR AND TEAR

Wear and tear resulting from the handling of books by staff and readers is undoubtedly one of the major factors accelerating the rate of deterioration

of the materials in our collections and an urgent priority must be to minimise this wear and tear. To a large extent this is an issue for the individual institution to ensure that staff are properly trained in how to handle books and that public service staff accept responsibility for the need for careful handling and further monitor its continued application. Readers also need to be encouraged to take care. Such training and education can however be helped by the provision of leaflets and posters examples of which include :-

(1) A guideline for the handling of books in general collections prepared by Merrily Smith (Annex D)

(2) Conservation rules for readers, prepared by D Clements based on British Library rules (Annex E)

(3) Sample poster from British Library to encourage staff to handle books with care (Annex F)

OTHER PROJECTS

Such projects are designed to produce guidelines or reports of practical use to those responsible for the preservation of library materials. Other projects that have been initiated by the section are listed below:-

(1) A review of simple ways to improve existing buildings in order to assist in the preservation of library collections

(2) A review of environmental and lighting standards in a selection of countries with a view to producing a general report

(3) Preparation of a report outlining the role of microforms in preservation programmes and the issues involved in the use of substitutes

(4) Preparation of publicity material to assist in promoting awareness of preservation issues.

TRAINING PROGRAMMES

The development of training programmes for preservation and conservation needs was discussed at a seminar on the Teaching of Conservation and Preservation Management following the main Vienna Conference in April. Provision of specific courses needs to be the final outcome and the 12 week summer course on the Conservation of Archival and Library Materials being run by the Department of Art History and Conservation of the Camberwell Scool of Art and Crafts, Peckham Road, London is one example of a recent development specifically orientated to promote awareness of the specialised areas of conservation for students from those countries in which conservation practice is at a relatively early stage.

DISCUSSION

Promotion and support of the core programme on preservation and conservation will take time to develop and will require many reports of the type outlined above to provide guidelines for those wishing to encourage preservation in their countries. This paper has given an indication of some of the work that is in hand but we would welcome your comments and your views on the major problems in your countries in order to help ensure that the programme is of maximum benefit. So much of this however requires some institution to act as a focal point in each country and I would urge you all to encourage the establishment of such a focal point which can help in the development of a preservation programme to protect the cultural heritage of your country.

Dr D W G Clements
Preservation Service
The British Library

May 1986

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CONSERVATION SURVEY - METHODOLOGY (DRAFT)

Objectives

The objective is to survey the collections in order to assess the condition of the books and the amount of preservation work needing to be undertaken. The collections of any given institution can be broken down into convenient blocks based on call number, subject or other convenient units in order that the collections can be surveyed in a series of discrete stages, the results analysed for each unit and the results cumulated over the collections as a whole.

Methodology

a) Select every n'th press. The smaller the 'n' the more detailed the survey and the longer required to collect and analyse the data. A detailed survey of collections of major importance will warrant selecting every other press (i.e. group of shelves between two vertical supports) while a quick survey to provide order of magnitude data would warrant selecting say only every 10th press. If selecting every 10th press select the first number between 1 and 10 from a table of random numbers. Start from this press, say the 9th press in the location then go to the 19th, 29th, 39th press and so on sampling every ten presses.

b) For a detailed survey take every alternate press.

c) Use a table of random numbers to select a shelf within the press (table A). Start with the first number in table A and count down from the top shelf to select the 2nd shelf or the number shown. At the next press use the next number in the series, and so on. If the number selected is greater than the number of shelves on the press, proceed to the next number in table A. If the shelf is empty record no item selected.

d) Use a table of random numbers to select a volume on that shelf (table B). The numbers in the table represent 5 cm divisions along the selected shelf between 0 and 115 cms. Thus to select a book on the shelf, measure along the shelf to the appropriate length in cms and choose the volume at that measurement. If the number selected is greater than the length of the shelf proceed to the next number in the table. If there is no book on the shelf at that position record no item selected.

e) Having selected a volume record the following details :

(i) Call number or library's identifying code
(ii) Date of publication
(iii) Country of origin (this can use groups of countries if needed)
(iv) Number of pages (for estimating the number of frames required if the item should be microfilmed)
(v) Condition of paper to assess brittleness. For books published after 1850 fold over the corner of one page then fold back again through 360° to make one double fold. Repeat this up to five times and record the number of folds on which the paper breaks away. If the paper does not break record 5+ folds. Do not apply this test to volumes

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considered to be especially valuable, fine bindings, limited editions or early or rare items. For early material assess paper condition visually and by feel to estimate whether paper is considered as

GOOD - strong, clean
FAIR - becoming discoloured and brittle
POOR - bad condition, discoloured, crumbling

(vi) Record if any signs of mould
(vii) Record if any signs of insect attack
(viii) Type of binding and condition

Results

The data from the survey can then be analysed to show, for example

Brittleness by age and by country of origin
Proportion of mould
Proportion of insect attack
Proportion of bindings in need of repair
Average pages per volume

Tables of random numbers

A - to select shelf within pages	B - to select book on shelf (in stages of 5 cm)	
2	25	10
3	35	0
8	80	45
7	100	90
1	65	40
10	105	60
6	20	50
5	70	5
4	85	110
9	30	115
	95	55
	15	75

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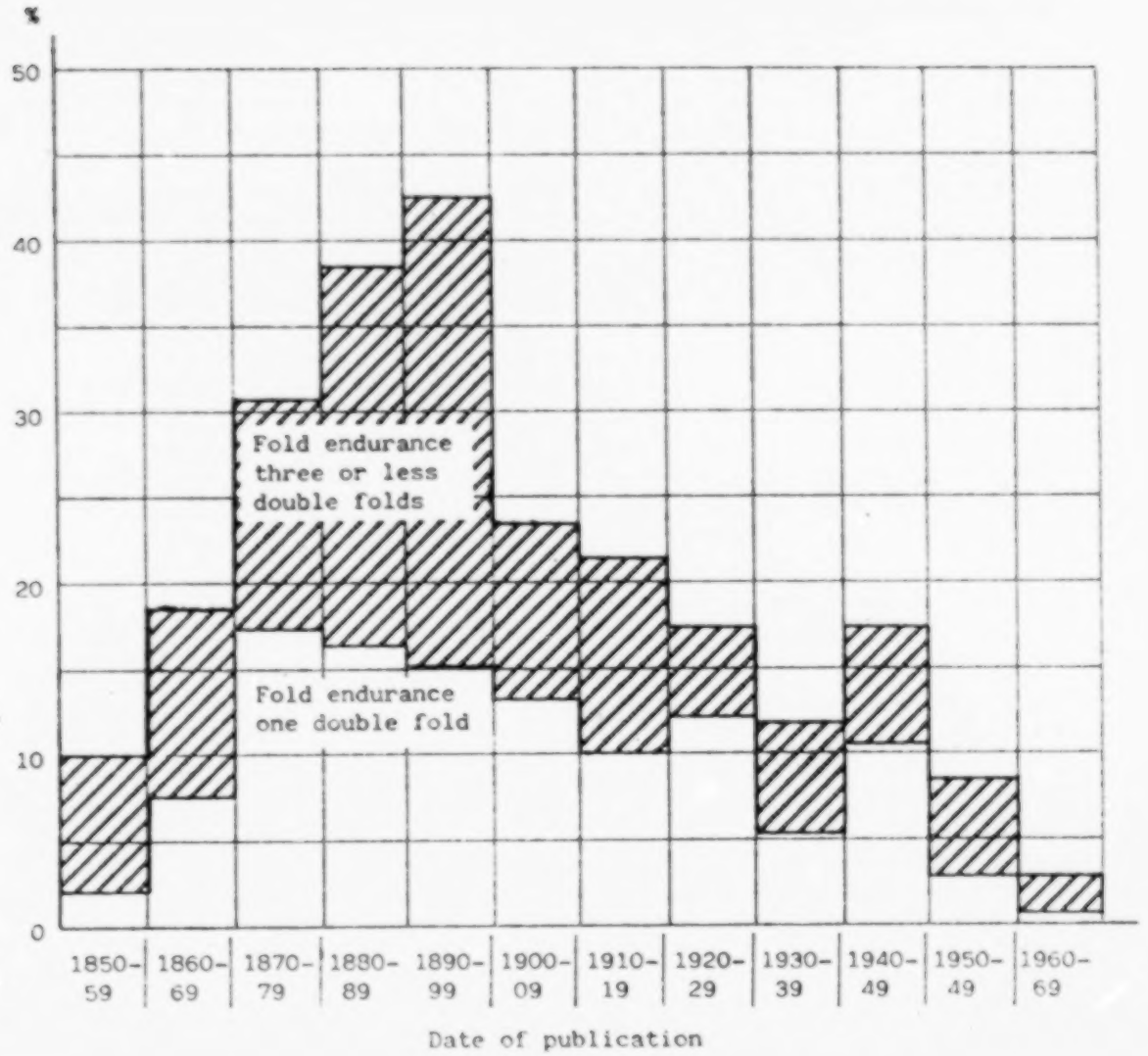
PAPER EMBRITTLEMENT 1850-1960 MEASURED BY FOLD TEST

(The worst embrittlement period, at present 1870-1920, will advance decade by decade)



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ANNEX B

MODEL OF PRESERVATION OPTIONS

(Treatments indicated in each box are inclusive)

INDIVIDUAL ITEMS	HIGH USE	MEDIUM USE	LOW USE
HIGH VALUE	Priority for appropriate conservation Boxing Microfilm substitute Restrict original	Appropriate conservation Boxing Microfilm substitute Restrict original	Defer conservation unless urgent Boxing Microfilm only if needed
MEDIUM VALUE	Conserve to meet use Possibly microfilm substitution	Conserve to meet use	Defer conservation unless urgent Boxing
LOW VALUE	Microfilm substitute (or conserve to meet use whichever is cheapest) Possibly discard original	Microfilm substitute (or conserve whichever is cheapest) Possibly discard original	No treatment No substitution Possibly discard when original deteriorates

Note 1: Value is taken to include bibliographic, aesthetic and financial factors.

Note 2: This represents a simple model of preservation options but items of exceptional value would be accorded full preservation protection independent of use with treatment necessary to conserve the item in its original form.

GUIDELINE FOR THE HANDLING OF BOOKS IN

GENERAL COLLECTIONS (DRAFT)

1. Books form such an integral part of our daily lives that, until they fall apart in our hands, we rarely think of them as perishable commodities. Yet libraries spend thousands of dollars each year in the repair, rebinding, and replacement of damaged volumes in their general collections. The care with which a book is handled by readers and library staff members directly affects its longevity; proper handling and storage can prolong the life of a library's collection.
2. The following information suggests appropriate handling and shelving practices for ordinary books in general collections. It describes the correct methods for taking books off shelves and putting them back safely; how to open and use them without damage; and how best to photocopy them.
3. Books are constructed from organic materials that vary in chemical and physical stability. They resist physical wear and tear to different degrees.
4. Pages and bindings are easily damaged if handled roughly.
5. The majority of bindings are most vulnerable at the joint, where the cover is hinged to the text.
6. Additionally, many modern papers are chemically unstable and become brittle in a relatively short time. Extreme care must be exercised in handling brittle paper.
7. Proper shelving and storage are important factors in extending the life of all books.
8. The safest storage for them is on smooth, solid shelves.
9. Avoid shelves that are runged.
10. Also avoid shelving that has protruding screws or jagged edges.
11. Since they spend so much time on the shelves, good posture for books promotes physical well being.
12. Ordinary sized volumes should be stored upright on shelves, resting on their base. Avoid stacking them on top of each other or on top of upright volumes.

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13. Books placed on their fore edges or spines, or allowed to lean will gradually be pulled out of shape by the effects of gravity.

14. Always use bookends on shelves that are not full. They keep the books from falling over and support the outside board on the end volume.

15. It is important that the bookend be large enough and strong enough to fulfill both of these functions successfully.

16. Some metal bookends are very narrow, and care must be taken to avoid pushing the text over a thin bookend when a volume is reshelved.

17. On full shelves, a happy medium must be struck between loose and tight packing of the volumes. Loose packing is inefficient and encourages the books to lean. Tight packing leads to damage resulting from the force that must be exerted in order to remove or replace books.

18. Friction and stress created by forcing a book in and out of a shelf space that was too narrow will break the book cloth along the joint.

19. Once this happens, the book has lost a portion of its protective covering. Other sorts of breakdown may then occur such as loosening of the cover from the text or the total detachment of cover boards.

20. It is never good practice to stand or pile books on the floor. Unexpected water leaks, routine janitorial maintenance, book trucks, and feet will damage them needlessly.

21. A good rule of thumb to follow is that all library materials should be shelved a minimum of four inches above the floor.

22. Careless handling in the process of circulation is a major cause of physical breakdown in books. A particularly vulnerable time for most books is when they are being removed from and replaced on the shelf.

23. The easiest, but most damaging, way to remove a book from its shelf is to hook the index finger over the end cap (or headband) and pull.

24. End caps are not a strong feature in most bindings. Repeated use of the end cap as a handle leads to a torn or broken spine piece.

25. A better technique is to ease the books back on either side of the desired volume, then grasp the exposed book by the sides with the whole hand, and readjust the shelf space.

26. Oversize books - inordinately tall, wide or thick - frequently have bindings that are weak in proportion to their size and weight. They cannot be stored safely on ordinary vertical shelving.

27. Oversize books should be stored flat on broad, fixed shelves, or roller shelves, with not more than three or four volumes resting on top of each other.

28. A common hazard in oversize shelving is that volumes may protrude into the aisles because the shelves are too shallow. This situation makes them vulnerable to damage from passing individuals and book trucks. It can be alleviated somewhat by using double-width shelves.

30. In reshelving, move the book end to loosen the whole row of books on the shelf so that ample space at the appropriate position can be created in which to insert the book.

31. Once it is in place, readjust the row and reset the bookend.

32. The temptation with horizontally shelved oversize volumes is to lift the stack with one hand and slide the desired volume out with the other. As a result, the book can be dropped easily.

33. A safer method is to have intermittent free shelves in the stacks so that upper volumes can be transferred to one of them. Both hands are free to grasp and support the volume firmly as it is moved. If shelf space is limited, a nearby table or book truck would suffice.

34. If oversized books are stored vertically, move adjacent volumes completely away on one side so that - again - both hands can be used to handle the volume.

35. Dropping a book even a short distance can cause severe damage.

36. Do not carry more than you can handle.

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37. When in doubt, use a book truck. Choose a truck that is easily maneuverable, has wide shelves or protective rails to secure the items in transit, and has rubber bumpers on all four corners to minimise damage from inadvertent collisions.

38. Place the books on the truck as they would be shelved in the stacks. Don't pile them on top of each other, and take care that they don't hang over the edges.

39. Load the truck so the books won't jostle off the shelves in transit. For maximum stability keep the centre of gravity low.

40. Books are too often treated casually and handled incorrectly or inappropriately in the course of daily use.

41. Clean hands, and the avoidance of food, drink, or smoking materials in close proximity to books are minimal requirements for proper handling.

42. The binding structure of a book will survive longer if the boards are always supported when the book is open.

43. Many volumes do not open easily and refuse to rest open to a given page. Forcing these books to open further, and exerting strong pressure on them so they will remain open, puts great stress on both spine and joints.

44. Excessive use of enclosures in books can distort and eventually break the binding because their presence strains the structure. This is particularly true if the book is used like a filing cabinet or if a thick wad of materials is inserted in one place.

45. When the temporary insertion of enclosures in a book cannot be avoided, minimise strain on the binding by placing them in the middle of the volume, rather than in the joint under the cover. Remove them as soon as possible.

46. If an enclosure must remain in the volume for an extended period, make sure it is made of an acid-free, non-damaging material.

47. Acidic enclosures pose a chemical threat to the paper because certain materials in them may migrate into adjacent leaves, causing them to deteriorate and discolour.

48. Avoid paper clips. If they are left in the text, they crimp the pages and may eventually damage them with rust.

49. Photocopying machines are standard equipment in most libraries. Unfortunately most of the wide variety of machines available are not designed to ensure photocopying of books without damage.

50. The very act of forcing a tightly bound book flat on the surface of a copying machine subjects the spine and sewing to more stress than they are designed to withstand.

51. Also, as open books are flipped over for copying pages, all portions of the binding come under great strain.

52. Weak, brittle paper may be bent or broken. Several options are available for minimising these hazards.

53. The most practical is to support the covers and pages of a book in the process of photocopying, and to avoid forcing the volume flat on the machine.

54. Learn to recognise, and do not attempt to copy, books whose size or structure prevent them from copying easily or well.

55. This would include volumes with tight bindings and narrow gutter margins.

56. Materials that are too brittle to photocopy should be microfilmed. Patrons requesting copies can either be offered print-outs or copies of the film itself.

57. These storage and handling practices may not seem significant when considered in connection with one use cycle of one book. But damage to books is cumulative.

58. Repeated poor handling can quickly transform a new book into a worn book, and a worn book into an unusable book that requires costly repair or replacement.

59. Propoer use of books by each individual prolongs the life of a library's entire collection.

CONSERVATION RULES FOR READERS (DRAFT)

All readers are asked to help the conservation of the book and manuscript collections by handling material carefully. The regulations for admissions include the following prohibitions :

- Do not put a book or anything else on top of an open book.
- Do not fold any page.
- Do not straighten out creased or dog-eared pages; you may only damage the book further.
- Do not lean on books while reading.
- Do not drop books or handle them roughly.
- Do not put books on the floor.
- Do not bend books back, lay them face downwards, or otherwise damage the binding.
- Do not write in or mark books in any way.
- Pencils only should be used in the Library.
- Do not write on paper resting on a book, open or closed.
- Do not bring any materials that can harm a book into the library. These include : food, paste or glue, ink in bottles, adhesive tape of any sort, scissors and knives.
- Do not lick fingers before turning the pages of the books.

The following precautions should also be observed :

- Do not touch a book with writing materials, rubber bands, paper clips or pens.
- Be particularly careful of large books, and use the lecterns provided for reading them.
- You are required to consult extra large books and certain other material on the sloped desks in the special Gallery; remember the regulations, and do not write or leave other books on such works.
- If you receive a book tied up with tape which you cannot untie, take it to the counter staff. Do not cut the tape.
- Take particular care with books in boxes.
- If you receive a book with uncut pages, do not cut or open it yourself, but return it to the counter staff who will have it opened for you.

Remember the new BARROW LAW...

Put us INSIDE the edges!

B.L. Books

IFLA GENERAL CONFERENCE, TOKYO
1986
Division: Management & Technology
Section: Conservation

184-CONS-4-E

PRESERVATION / CONSERVATION IN JAPAN

by Akio Yasue
National Diet Library

KEYWORD(S):

Preservation
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For internal use only:
To be brought to meeting no:
122

Remarks:
to be presented orally ☑
for distribution only ☐

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The year 1982 is epoch-making in the history of preservation of library materials in modern Japan. This is because, in that year, "Hon o nokosu" or "Preserving books" was published by Hirotaka Kanaya , staff of Japan Publishers Association, which is the 48 pages anthology of articles related to book conservation and preservation. By this booklet, the problem of book conservation, particularly book deterioration caused by the acidity of paper became known to the public of Japan

The impact of this booklet was tremendous. Not merely librarians and archivists but publishers, paper makers, conservators, paper scientists, authors and general readers of books -- this is to say, every sort of members of the book community -- became aware of and concerned with book longevity.

With this publication of "Preserving books" as a momentum, various discussions have been made and progress as well. I will report, first of all, the following two points.

Before the year 1982, book paper made and used in Japan, with very few exceptions, was acid paper. But paper makers had been studied and developed alkaline paper in the 1970's and in the early 1980's from the view points of paper brightness and cost effectiveness and new wide spread concern toward book longevity gave impetus to this effort and development. Demands from publishers and librarians together with the growing public interest have been transforming book paper from acid to alkaline paper. At present, it is roughly estimated that some 40-50 percent of book paper produced and used in Japan is alkaline. This trend will go forward. It is possible to forsee that a

large percentage of books could be made with acid-free paper in the next few years. As the life of acid-free paper is expected to be several times longer than acid paper with the same paper material, this trend of alkalization of book paper is, of course, highly appreciated by librarians and others who are responsible to and concerned with book conservation.

As is familiar to all of you, deacidification of acid paper is a remarkable rescue to library collections of which most of the book paper is acid. There is no library yet in Japan which operates the deacidification treatment. Study, development and spread of deacidification treatment together with other conservation techniques such as encaptulation, lamination, leafcasting, and also training of conservators equipped with these techniques are our urgent and essential tasks.

Regarding deacidificatbn, its study and research has been going on. The National Diet Library has sent its staff members to other foreign libraries -- Libra^ry of Congress, National Library of Canada, The British Library -- to learn deacidification practice. Also several groups of scientists and conservation specialists have made experiments of deacidification treatments. One of these deacidification study groups is led by Prof. Oe, paperscientist of Tokyo University of Agriculture and Technology, whose project is subsidized by the Ministry of Education. This group is experimenting effects of mass deacidification methods ; diethyle zinc vapor phase deacidification developed by the Library of Congress and

Weit'o method developed by Richard Smith and operated at the National Library of Canada. I have heard that similar evaluation studies have been going on in the United States. Results of these studies are significant for libraries which apply or which consider to apply this technology.

I have described shortly the alkalization of book paper and deacidification experiments, which are responses mainly of publishers, paper makers and scientists. But now, how were the responses of the librarians? How do librarians have responded to this book deterioration problem?

Since 1983, Japanese librarians have met often to learn and understand this problem, and to discuss its countermeasures. For example, the National Diet Library, after carrying out the book deterioration survey of its collection, has organized in 1983, the Symposium on Paper Deterioration and Preservation of Library Materials. The Library Center of Kanazawa Institute of Technology, in 1984, having invited Warren Haas, the President of Council on Library Resources, David Stam, the Deputy Libraian of the New York Public Library at that time and other distinguished guests, organized International Seminar on Preservation, Conservation and restoration of Materials. In both occasions, publishers, papermakers, printers, conservation specialists, scientists, journalists as well as librarians and library school staffs have met.

The Japan Library Association devoted one section of its annual conference in 1984 to preservation of library materials, which took place in 1985 also. Besides the above mentioned

meetings, book deterioration has been taken up as discussion theme in various workshops, training courses and conferences of librarians. There exist Preservation Study Group and Codex Group, who both hold regular meetings and publish newsletters for the purpose of exchange of views and informations on preservation / conservation. The former was established in 1985 based on the discussion of 1984's Japan Library Association annual conference and supported partly by that Association. The latter is the group of conservators established this year.

Through these occasions, librarians' understanding of deterioration of book paper has been deepened and the examination of preservation countermeasures, reconsideration of significance of preservation activity in library management are forwarded.

At present however, it should be pointed out that we still stay at that stage. If I borrow the title of Pamela Darling and Sherlin Ogden's excellent preservation report of the United States "From problems perceived to programs in practice", we are in the stage of "problems perceived".

There have been critics from among librarians and also from other members of the book community on librarians' slow responses to the preservation question. Why librarians are not eager to solve the preservation question? Why was it not the librarians who pioneerd in the paper deterioration problem?

The question is whether libraries preserve their collections well and bear social and historical responsibilities or not? Whether they will be able to bear these responsiblities in the

future or not? For us librarians further reflection on this matter is due. On the other hand, however, it would not be fair not to point out the fact that brittle books are still scarce yet in Japan. It is rather natural that, for librarians who have not brittle books in their collections, the question is vague and does not necessitate an immediate response.

It seems to me that the slow and inadequate response of librarians to the preservation challenge is also caused by the complexity of the problem. Easy and simple solutions can not be expected. Preservation and access, aquisition and preservation, discarding, cooperative preservation, cooperation and coordination with publishers, archivists, museum curators, scientists, ···. For all these, sufficent discussion, long range perspective and well programmed action are necessary.

Furthermore, whatever they may be, the preservation activities require a large amount of money. New action requires new fiscal backup and this of course delay the solution.

Japanese libraries have carried out the conservation activities thus far such as book binding, repairing, preventive measures to vermin and mold, environmental control, microfilming, development and use of bookcopying machine, etc.. Stimulated by the recent discussion on paper deterioration and preservation of library materials, there is tendency in each library to review its conservation activities and bring them to adequateness. This is one of the achivements that deepened understanding on book conservation have brought. Yet endeavors and countermeasures are not suffient nor satisfactory. Advance of conservation

activities in each library, particularly in conservation and research libraries is expected. In this regard, it is strongly required that library management staffs recongnize the importance of preservation activities.

To solve the problem we face however, conservation measures in each library is not enough. There are many activities which will not progress unless the library world as a whole copes with them all together. They are, for example, cooperative preservation program, development of conservation technology, cooperation with publishers etc.. On this scene, initiative and support of national organizations and institutions, such as Japan Library Association, National Diet Library, Ministry of Education, are extremely important. Because conservation / preservation is both the problem in each individual library and the national problem, and because preservation measures require great expence, and also because this is the very complicate and complex problem, these organizationa and institutions shoulder heavy responsiblity.

The Japan Library Association put in its 1986 Activity Program the review of preservation / conservation countermeasures in long range perspective. The National Diet Library submitted in 1985 a report titled "Preservation of library material after the accomplishment of the annex building ; necessary actions". Based on this report, the Preservation Planning Office was established, the Book Binding Section was reorganized to Preservation Division, and they started new preservation activities.

We might be able to recognize these new actions as

the beginning of "programs in practice". Taking the opportunity of IFLA Conference in Tokyo of which the preservation and conservation is one of core programs, we do expect that this movement goes forward further and faster.

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Section: CONSERVATION

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PRESERVATION PROBLEMS AND THE FIVE-YEAR PLAN

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PRESERVATION PROBLEMS AND THE FIVE-YEAR PLAN (1985-1989)

Introduction

As one of the major countries of the world's ancient civilization, China has created and accumulated an extremely rich and splendid cultural heritage during thousands of years of history. Most of the cultural heritage has been handed down from generation to generation through written documents of different kind, which are now in our librarians' hands. It has now been more and more widely recognized that it is the librarian's unshirkable duty to preserve the record of human history. As preservation has become a wide-spread major concern within the international library community in the recent years, there has been a growing avareness of the need for preserving and protecting library materials in China.

Brief account of the National Library of China

National Library of China was founded in 1910 and opened in 1912. It has inherited the collections of the imperial libraries of various dynasties. At present, the Library's holdings total over 13,000,000 volumes of books, of which 2900000 volumes are old and rare books with the oldest dating back to the 5th century AD. Thanks to our visdom ancestors, those old books are made of high quality hand-made paper (mostly of mulberry tree barks, bamboo and linen), so that they are still in a very good condition after thousand of years. Test shows that PH value of most of the acient papers is < 8.0. And what is more, some natural herbs were added during the paper-making process to prevent insects. This kind of paper is known as "permanant paper".

The Library is presently housed in a number of older buildings with the main one built in 1931. Use of facilities of modern technique of any kind is not made. However, at a saperate location, a new library building is being constructed and due to be finished in July 1987. About this time next year, we will be moving into the new building of 140,000 square metres.

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Preservation problems

(a) Although the paper of the ancient books are still in a fairly good condition, yet damages have been made by various wars, disasters,insects, mice and mould during the long period of history. According to the survey, more than 100,000 volumes of old books need conservation treatment urgently.

(b) Paper embrittlement and acidity do not seem to be too widespread as it has been seen in the Western countries, as yet apart from the newspaper collection, for which, microfilming is badly needed. However, evidence of the early signs of acidity has already been found in the modern books published before 1930s, and early treatment is already necessary. This will inevitably be a major problem in the coming year, but modern technique of deacidification has not at all been used till now.

(c) The library buildings are old and lack regular maintenance. Windows sometimes fit badly letting in dust and being unable to be sealed to keep out the damp during wet season. Temperature level varies widely in Beijing. During hot and wet season, humidity level in the underground rare book storage could increase as high as between 90% and 95%, while in dry season, it goes down below 30%. As a result, mould has been found in some microform storages and also on rare book boxes and cabinets.

(d) Staff members are not constantly educated how to take care when shelving and photocopying, so careless handling often results in damage to the volumes.

(e) There is a great shortage of qualified personnel and financial resources, which affects the surveys and studies on preservation, as well as aquisition of necessary facilities for preservation. There is definitely a need of dust removal, air-conditioning and ultra-violet screening filters in certain areas of the Library.

(f) Preservation is not really yet one of the priorities of the library activities. There is still a need to increase the avareness of the importance of preservation of library materials among the Library's authorities.

Preservation activities

(a) Traditional Methods of preserving and repairing books are continued and extended.

National Library has a good reputation for its expertise in repairing and restoring the damaged books. There are now 14 staff members working in the Book Restoration Section, 3 of them are veteran conservators with more than 30 years of experience. The Section is responsible to repair and restore the damaged rare books, maps, paintings, rubbings and manuscripts from the Library's collection. More than 2,000 volumes can be treated each year, which is too small a scale in comparation with over 100,000 volumes of rare books needing to be undertaken. Restricted by the shortage of conservators and resources, this kind of refined treatment is only given to the rare books.

Use of nanmu wood (moisture proof wood) and camphor wood (insect repellent wood) boxes and cabinets for rare books are continued and extended as far as possible. Some wood boxes and acid-free paper board boxes are also made for microfilms. These boxes and cabinets not only help reduce insect attack but exclude dust and reduce variations in humidity levels.

Camphor tablets are spread once a year in the underground rare book storage to protect books from insects. These methods have proved fairly effective, as new insect attack has not been found for years.

(b) Microfilming was begun in 1940s as a means of service to users as well as preservation of library materials. The Photocopying Section was expended into a department in 1984, which now has a staff of over 60, half of it engage in preservation programmes. Possessing 6 35mm and 4 16mm microfilming cameras, 1,000 rolls of film are produced per year, with the majority being 35mm films. About 20 microfilm readers are used partly for quality control of filming, partly for reading by users. For the last few years, these facilities are mainly devoted into the rare book microfilming

project. A complete set of master copies of rare book collection will be stored by the Library, while copies are made to supply for study by users, so as to restrict use of the originals. By 1985, the local history collection was done, and the whole collection of rarebooks is expected to be finished within 3 years. The next project will be the photocopying of the important titles of newspapers and mangezines which are badly damaged.

National Library has been envolved in the formulation of standards for rare book microfilming, which will soon be promulgated by the State Committee of Microforms Standardization. This will help improve the quality of microfilms. China National Microfilming Centre for Library Resources was established in the beginning of last year, which will act as a coordinator for microfilming activities nationwide.

(c) Book Preservation Research Section was set up in 1981. Researches have been carried out in collaboration with other institutions on methods of oxygen elimination, ultra-violet provention, freezing method of insects killing, etc. People from the Section took part in the design and development of special dust removers for library use, and has installed an alarm system of temperature and humidity in the rare book storage. The unit has also organized a number of seminars and short cources for preservators and conservators.

Five-year plan (1985-1989)

(a) After the new Library is completed, a Book Preservation Research Office will be established. The Office will undertake research on methods of preserving paper, handwriting, film, etc.; research on book repair and restoration, methods of preventing damage made by harmful air, light, dust, insect, mould, etc. The Office will be responsible to supervise preservation and conservation activities in all parts of the Library, and be coordinating cooperative preservation activities of the country. It will also establish

programmes of training and education to increase avareness of importance and knowledge of preservation as well as expertise in the area. A number of laboratories of physics, chemistry and biology will be established within the Office.

(b) A thorough cleaning of books is required before moving into the new Library building.

(c) Study and application experiment of the method of freezing sterilization is due to complete by 1986. In 1987, freezing facilities will be acquired and put into operation. All books are to be sterilized before moving into the new library building.

(d) Preservation measures to be used before the removal into the new library building are mainly as follows:

-- use the dehumidifiers available to reduce humidity level in storages during wet season, and rare book and microform storages are the main concerns of temperature and humidity control.

-- continue and extend the use of boxes, cabinets, bags made of good quality wood and acid-free paper for rare books and microfilms.

-- study and apply the ultra-violet protection method to prevent harmful light.

-- establish regulations and rules for book handling.

-- speed up photocopying of the damaged books, newspapers, magezines and rare materials.

-- constantly circulate the air in the storages by using fans and opening windows.

(e) Improvement of the conditions in the older buildings will take place after the major part of the books are moved into the new library. air-conditioning facilities will be installed in some storages which will be remained for keeping valuable library materials, so that to make the environment as close as possible to the standard.

(f) Preservation measures for the new Library:

-- establish temperature and humidity standards for rare book storage, microforms storage and general book stacks respectively.

-- regularly monitor the air-conditioning facilities for storages to ensure a consistent level of temperature and humidity of the standard.

-- conduct survey on situation of acidity of the collection and propose method and technique of deacidification.

-- make effort in regular preventive measures of preservation, such as prevention of dust, light, harmful air, insects, mould, etc.

-- continue to study conservation techniques, improve the repairing skills of the conservators,and recruit conservation personnel.

-- remove dust and sterilizing newly acquired books before they are sent to the stacks.

-- regularly check the automatic alarm and fire prevention systems in various storages by technicians.

-- acquire modern sterilizer to conduct sterilization in book storages regularly.

In the field of preservation and conservation there is a big room for us to learn from our colleagues of other countries about modern techniques and advanced experiences. We are keeping our eyes on new development in this area and looking forward to exchanging and learning new ideas from and cooperating with our colleagues of the world. Thank you.